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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Tomio KONDOU al.

Serial No.: 09/845,449

Group Art Unit 1756

Filed : April 30, 2001

Examiner Janis L. Dote

For : COLOR TONERS AND IMAGE FORMING METHOD
USING THE COLOR TONERS

FIRST REPLY TO FINAL REJECTION

1185 Ave. of the Americas
New York, N.Y. 10036
March 26, 2003

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

S I R:

In response to the final Office Action dated October 2, 2002, applicants hereby respectfully request reconsideration and allowance of the above-identified application for the reasons set forth below.

Submitted herewith is a certified translation of applicants' priority Japanese patent application No. 2000-133980, filed May 2, 2000. Receipt of a certified copy of this priority document was acknowledged by the Examiner in an Office Action dated January 30, 2002. For convenience of reference, a copy of the published version of the same priority application is also attached hereto.

Claims 1 - 11, 23 and 24 are in the application. Of these, claims 1 (method) and 23 (apparatus) are independent; claims 2 - 11 are dependent on 1; and claim 24 is dependent on claim 23. All the claims have been finally rejected under 35 U.S.C. § 103(a) as unpatentable over various combinations of references. In addition, the Examiner has objected to certain amendments made to the specification in Paper No. 6, filed August 6, 2002, on the ground that these amendments introduce new matter.

I. The New Matter Objection

Attention is respectfully directed to the attached certified translation of applicants' priority Japanese patent application No. 2000-133980, filed May 2, 2000. That Japanese application is expressly incorporated by reference in the present Application at p. 39, lines 21-23.

From the attached translation, it will be seen that in the Japanese priority application, there are descriptions of toner manufacturing examples which are respectively substantively identical to the examples (in applicants' above-identified U.S. application) that applicants amended on August 6, 2002, by changing the compound formula "1-20" to compound formula --7--. Further, it will be seen that in the Japanese priority application, in each of the three instances in question, the compound formula was correctly identified as compound formula 7. The erroneous compound formula designation "1-20" was inadvertently introduced in the course of preparing the English-language specification for filing in the United States.

It is respectfully submitted, therefore, that clear and unambiguous antecedent basis for each change of "1-20" to --7-- in the August 6, 2002, amendment is provided in the originally filed U.S. specification by the aforesaid express incorporation by reference therein of the Japanese priority application No. 2000-133980, which correctly identified the compound formula as --7-- in each pertinent occurrence.

Entry of the replacement paragraphs at p. 26, line 14, p. 30, line 2, and p. 32, line 19, as submitted in the August 6, 2002, Amendment, and withdrawal of the requirement to cancel "new matter," are courteously requested.

II. The Claim Rejections

The Method Invention

Applicants' independent claim 1 (directed to a method of forming a full color image) is expressly limited to the following combination of features:

- (a) non-contact fixing;
- (b) use of specified yellow, magenta and cyan colorants, and
- (c) positioning the yellow color toner images closer to the receiving material than any other color toner image.

As applicants' specification explains (p. 2, lines 14-23), problems concerning color reproducibility have heretofore been encountered when non-contact fixing methods have been used, and in addition, "the color toner images generally have poor light resistance." The specification further sets forth (p. 6, lines 23-27) that use of the specific set of yellow, magenta and cyan colorants of feature (b) above, with non-contact fixing (feature (a)), in accordance with the invention, "can produce color images having better image qualities than conventional color toners," although "the image qualities of the color images are inferior to those of the color images fixed by a roller fixing method." When, in addition, feature (c) is provided -- i.e., when the yellow toner image has the lowest position in color toner images overlaid on a receiving material -- "the image qualities [with non-contact fixing] are as good as those of the color toner images fixed by a roller fixing method" (specification, p. 7, lines 1-7).

This beneficial result is demonstrated by the Examples and Comparative Examples of applicants' specification, all of which employ non-contact fixing. Examples 1 - 4 are examples of the invention defined in claim 1. Comparative Example 1 uses the same set of toners as feature (b) of the invention but does not place the yellow toner image closest to the receiving material. Comparative Examples 2 and 3 do have the yellow image lowermost but employ yellow and magenta colorants not included within

feature (b) although they use the same blue colorant as feature (b). The data set forth in Table 1 of the specification and represented in FIGS. 1-3 of the drawings illustrate the clear superiority of the Examples of the invention over any of the Comparative Examples.

The Rejection

Claims 1 has been finally rejected under 35 U.S.C. §103(a) on each of the following grounds:

- (1) unpatentability over Elsermans et al. in view of (i) JP '982¹ or (ii) Iwasaki et al. as evidenced by Chemical Abstracts and *Industrial Organic Pigments*;
- (2) unpatentability over Aoki et al. in view of Moser and further in view of (i) JP '982 or (ii) Iwasaki et al. as evidenced by Chemical Abstracts and *Industrial Organic Pigments*;
- (3) unpatentability over Takahashi et al. in view of Moser and further in view of (i) JP '982 or (ii) Iwasaki et al. as evidenced by Chemical Abstracts and *Industrial Organic Pigments*;
- (4) unpatentability over Hata in view of Moser and further in view of (i) JP '982 or (ii) Iwasaki et al. as evidenced by Chemical Abstracts and *Industrial Organic Pigments*.

In each of these grounds of rejection, the secondary references (i)/(ii) are relied on for the specific set of yellow, magenta and cyan colorants referred to as feature (b) above, while Elsermans et al. alone, or Aoki et al., Takahashi et al. or Hata each in view of Moser, are relied on for non-contact fixing (feature (a)) and lowermost positioning of the yellow image (feature (c)). It is undisputed that no single reference shows use of the feature (b) set of colorants for non-contact fixing, with or without the

¹As explained below, JP '982 is antedated by applicants' claimed Japanese priority date and is therefore not applicable as a reference in any ground of rejection.

yellow image positioning feature (c). The Examiner asserts that use of the feature (b) set of colorants in non-contact fixing with the yellow image lowermost would have been obvious from each proposed combination of references because an artisan of ordinary skill would have had "a reasonable expectation of successfully obtaining a cost effective and reliable image forming" method capable of providing full color images having desirable properties (such as gloss, etc.) and the benefits disclosed by secondary references (i) or (ii).

Discussion

Even assuming *arguendo* that the novel combination of method features (a), (b) and (c) defined in claim 1 might be deemed *prima facie* obvious over one or more of the asserted combinations of references, nevertheless applicants respectfully submit that this novel combination of method features achieves a beneficial result -- a full color image, produced by non-contact fixing, with image qualities as good as those attainable by a roller fixing method -- that is entirely unobvious and unexpected from the references, taken together, and is therefore entitled to patentable weight.

There is nothing in any of the applied references, or any combination of them, to suggest that by using the toner pigment combination of applicants' feature (b) in a non-contact fixing method, with any order of deposition of images, the inferiority of full color image quality heretofore associated with non-contact fixing could be overcome. The advantages assertedly shown by the secondary references (i) or (ii) for the toner pigment combination of feature (b) are unrelated to problems of image quality in non-contact fixing. The references relied on for non-contact fixing (and order of deposition of the yellow image) are silent with respect to the compositions of feature (b), and contain nothing that would suggest to the person of ordinary skill in the art, even having secondary references (i) or (ii) at hand, that

applicants' beneficial result could be attained by using the toners of the latter in the methods of the former references.

In the final Office Action, the Examiner states, first, that "The reasons for combining the references do not have to be those of applicants." But at most, such a combination of references presents a case of *prima facie* obviousness and can be overcome by a showing of unexpected beneficial results.

Next, the Examiner asserts that the showing in the specification is insufficient to show unexpected beneficial results because "The showing is not commensurate in scope with the instant claims" inasmuch as the ingredients and properties of the color toners of applicants' Examples are "preferred." In fact, however, the specific cyan and yellow colorants used in applicants' Examples 1-4 are not disclosed as "preferred" in the specification, but are instead expressly characterized as "specific examples" of those colorants (specification, p. 7, lines 8 and 17), while the magenta colorant is clearly a representative example of magenta colorants within the defined scope of claim 1. The other ingredients mentioned by the Examiner (binder resin and charge controlling agent) were not varied between the Examples and Comparative Examples of the specification; in Comparative Example 1, there was no compositional variation at all from the Examples of the claimed invention, and Comparative Examples 2 and 3 varied from the Examples of the invention only in yellow and magenta colorants.

Consequently, applicants respectfully submit that their Examples and Comparative Examples do not present a "welter of unconstrained variables" but rather a careful control such that only critical factors (yellow image position and colorants) were varied as between the Examples and Comparative Examples, enabling a clear identification of the beneficial results shown with the claimed combination of critical factors.

The final Action additionally contends that "the results in the specification do not appear to be unexpected" in view of JP

JP '982. JP '982, however, has an effective date as a reference (publication date) of July 18, 2000. Applicants' priority Japanese patent application No. 2000-133980 was filed May 2, 2000, before the publication date of JP '982. Applicants have duly claimed the priority benefit of Japanese application No. 2000-133980, filed May 2, 2000, and have filed a certified copy thereof, as well as the certified translation hereto attached. From that translation, it will be clear that Japanese application No. 2000-133980 clearly and fully supports the present claims.

By virtue of their claim of priority and their submission of a certified copy and certified translation of their priority Japanese patent application No. 2000-133980, filed May 2, 2000, applicants are entitled to their May 2, 2000, Japanese priority filing date with respect to all the rejected claims. It follows that JP '982 is not applicable as a reference against the claims, and cannot properly be relied on as showing that "the results in the specification do not appear to be unexpected." Nothing is seen (or even assertedly set forth) in any other cited reference that would make the beneficial results achieved by applicants' invention expected or obvious.

It is therefore submitted that the recitals of features (a), (b) and (c) in claim 1, defining a combination that is novel and achieves an unexpected beneficial result, present a patentable distinction over each of the combinations of references applied in the §103(a) rejection. Claims 2 - 11, being dependent on claim 1, are believed allowable therewith. Kuramoto, combined with the citations already discussed in the rejections of claims 4 and 5, adds nothing with respect to the novel and distinguishing combination of features set forth in claim 1.

The Apparatus Claims

Apparatus claim 23 is submitted to distinguish patentably over the asserted combinations of references in reciting an image forming device containing the toners of feature (b) as discussed

above and comprising, *inter alia*, a non-contact fixing device. Again, the combination is novel, and this novel combination provides an unexpected beneficial result. Claim 24 is believed allowable by virtue of its dependence on claim 23.

* * * * *

For the foregoing reasons, it is believed that this application is now in condition for allowance. Favorable action thereon is accordingly courteously requested.

Respectfully,

Christopher C. Dunham
Christopher C. Dunham
Reg. No. 22,031
Attorney for Applicants
Tel. (212) 278-0400

I hereby certify that this paper is being deposited this date with the U.S. Postal Service as first class mail addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Christopher C. Dunham
Christopher C. Dunham, Reg. No. 22,031
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